Supplementary information: Extracting the Jugular Venous Pulse from Anterior Neck Contact Photoplethysmography

Irene García-López[1,*] **and Esther Rodriguez-Villegas**[1]

[1]Department of Electrical and Electronic Engineering, Imperial College London, London, SW7 2AZ, United Kingdom
[*]irene.garcia-lopez15@imperial.ac.uk

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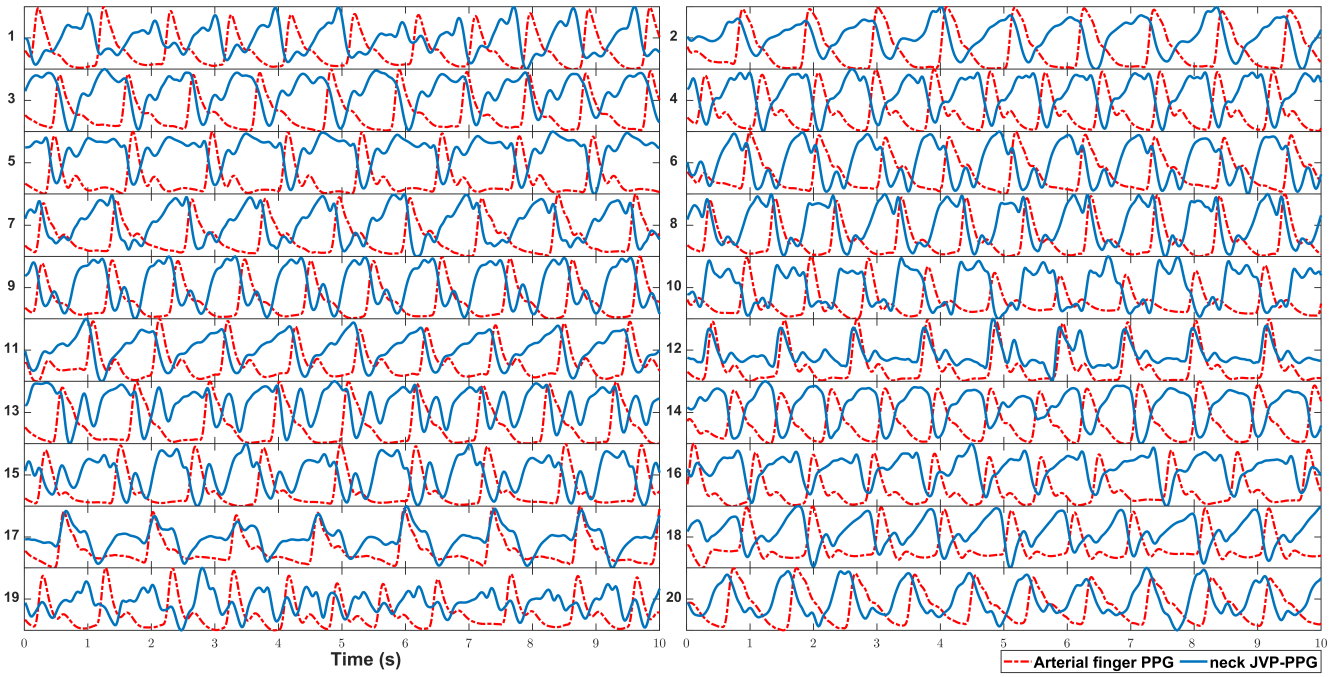

Figure 1. Recordings extracts of 10s duration showing neck JVP and finger arterial PPG signals for all subjects (n=20). Signals were normalized in amplitude in the range [0,1] for visualization purposes.

Table 1. Average time differences between characteristic peaks and waves from neck JVP, finger PPG, and ECG signals. Mean differences (in ms) normalized by the *v-v* interval (1s) are presented for each subject (n=20) together with the standard deviation ($\mu \pm \sigma$). **S** represents the arterial finger PPG systolic peak, **R** is the QRS complex peak of the ECG and **a**,**c**,**v** correspond to the JVP waves. **O** indicates the onset of the JVP pulse.

Subj.	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*
S-R	427.6 ± 18.9	380.1 ± 10.5	382.7 ± 54.7	457.3 ± 10.9	355.1 ± 10.8	370.2 ± 15.1	356.1 ± 21.4	387.3 ± 14.4	357.4 ± 8.6
S-c	270.8 ± 18.2	205.6 ± 22	248.4 ± 39.6	349.3 ± 13	249.2 ± 16	243.6 ± 18.9	221.1 ± 26	285.2 ± 34.5	285.1 ± 15.6
c-R	156.9 ± 5.5	174.5 ± 19.7	134.3 ± 17.4	108 ± 5.2	105.9 ± 5.7	126.6 ± 6.8	135 ± 11.6	102.1 ± 34	72.3 ± 13.4
c-v	650.4 ± 49.5	440.8 ± 31	456.2 ± 66.8	435.1 ± 16.7	552.4 ± 25.7	508.7 ± 11.2	518.1 ± 30.5	446.3 ± 40.2	526.1 ± 30.3
c-a	215.8 ± 13	222.8 ± 9	231 ± 38.1	121.5 ± 14.3	294.8 ± 36.2	150 ± 14.1	280 ± 34.2	124.2 ± 13.4	127 ± 15.4
a-v	434.6 ± 52.7	218 ± 29.6	225.1 ± 42.5	313.6 ± 9.9	257.6 ± 19.1	358.8 ± 12.2	238.1 ± 10.4	322.1 ± 28.9	399.2 ± 16.6
R-v	493.5 ± 48.5	266.3 ± 37.2	321.9 ± 81.5	327 ± 17.6	446.4 ± 21.1	382.1 ± 12.5	383.1 ± 36.4	344.2 ± 19.1	453.8 ± 29.8
R-O	636.3 ± 22.1	439.3 ± 15.6	483.8 ± 66.3	510.3 ± 7.9	625 ± 18.2	531.8 ± 5.3	515.2 ± 25.6	462.7 ± 9.2	589 ± 15.2
R-a	58.9 ± 13.6	48.3 ± 28.1	96.7 ± 48.1	13.5 ± 16.8	188.9 ± 31.8	23.3 ± 12.1	145 ± 39.4	22.1 ± 24.7	54.7 ± 16.1

Subj.	*10*	*11*	*13*	*14*	*15*	*16*	*18*	*19*	*20*
S-R	396 ± 32.6	362.6 ± 10.9	368.9 ± 7.9	417.5 ± 27.1	353.7 ± 14.9	374.7 ± 37.3	370.7 ± 43.4	409.5 ± 44.5	396.6 ± 17.3
S-c	267.8 ± 8.9	252.6 ± 6.8	191.2 ± 9.9	280.7 ± 18.3	240.2 ± 19.1	263.3 ± 28.1	197.6 ± 9.1	331.3 ± 42	259.3 ± 21.1
c-R	128.2 ± 27.7	110 ± 7.8	177.7 ± 15.4	136.8 ± 18.1	113.5 ± 4.7	111.4 ± 12.2	173.2 ± 42.5	78.2 ± 14	137.4 ± 24.3
c-V	504.9 ± 34.3	447.4 ± 13.5	500.3 ± 23.6	478.7 ± 15	555.2 ± 38.8	619.3 ± 42.9	590.8 ± 43.2	380.9 ± 58.4	454.3 ± 30.6
c-a	251.2 ± 23.3	210 ± 12.2	207 ± 42	222.2 ± 27.1	192.1 ± 37.3	210.2 ± 36.6	231.4 ± 44.1	149.6 ± 19.8	-
a-v	253.7 ± 55.3	237.4 ± 11	293.3 ± 28.3	256.5 ± 16.2	363 ± 5	409.1 ± 74.8	359.4 ± 49.1	231.3 ± 63	-
R-v	376.7 ± 24.2	337.4 ± 14.9	322.6 ± 11.4	341.9 ± 21	441.7 ± 41.5	507.9 ± 51	417.6 ± 51.4	302.7 ± 59.9	316.9 ± 23.5
R-O	562.7 ± 31.3	507.4 ± 10.5	516.3 ± 6.4	570.4 ± 28.7	578.4 ± 21	699 ± 40.7	634 ± 40.8	456.3 ± 67.7	418 ± 5.9
R-a	123 ± 46.3	100 ± 13	29.3 ± 36.2	85.4 ± 30.9	78.6 ± 39.9	98.8 ± 26	58.2 ± 8.3	71.4 ± 8.6	-